Parenting the Touchscreen Natives

– Dilemma with Guidelines, Content, and Context

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Master of Arts thesis abstract

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The amount of touch screen devices and applications designed for toddlers and children is expanding rapidly. Children's exposure to media has never been as deep as it is today. The growing trend of using digital content and touch-screen devices from an early age has created a new generation of Digital Native, called the Touch Screen Native.

Designing and purchasing digital content for young children is increasing and expanding field of business. Consumers in this new field of media, e.g. parents, are in a difficult situation, as they should be able to make a decision on both what is good and suitable digital content for young children and what is good design in general in this context. At the same time parents are being told to control or avoid screen time.

The role of parents as co-viewers, co-listeners, active media partners and digital content managers is significant. Managing screen time and digital content and participating the media usage are essential parts of digital parenting, and difficult task for most of the parents. There is a need for realistic, evidence based guidelines and information to suit the challenges of hectic lifestyle and digital parenting. Based on my research I created guidelines for parents to deal with challenges of contemporary digital parenting.

Qualitative studies and data regarding on the young children's media usage and exposure already exist, but studies related to interactive touch screen media usage are only beginning to emerge, and very few of them has commented on qualitative side of the topic. The commonness of young children's media usage has been studied but the lack of inclusive data on touch screen device use among children and need for new research methods is reported in several context. To collect qualitative data on the media usage I organized 15 semi-structured interviews for parents and custodians

Developing and supporting qualitative research and methods such as observation and interviews, would give the anticipated understanding of how media is being used among families with small children in everyday life. This information is valuable for many stakeholders from parents to designers, and it can be used for designing media educational legislation and initiatives. Ever changing and rapidly developing media landscape requires up to date research methods and expertise from research organizations.

My thesis argues that the media competence and the media usage habits of parents are in essential role regarding young children's media exposure. I demonstrate that the pass-back effect plays a significant role in the formation of the screen time, and it is important to recognize what is the context and content regarding on young children's media usage. I also state that due to an evolving and widening variety of media content designed especially for the touch-screen device the term screen time needs to be adjusted and updated.

Keywords digital parenting, touch screen native, young children's media usage, screen time, apps, touch screen device, joint media engagement, the pass-back effect

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Lifelong Learning!

Minna Piirainen

In Helsinki
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Table of Contents

1. Introduction

The amount of touch screen devices and applications designed for toddlers and children is expanding rapidly. Children's exposure to media has never been as deep as it is today. The growing trend of using digital content and touch-screen devices from an early age has created a new generation of Digital Native, called the Touch Screen Native. A touch screen native is a child who was born in the era of touch-screen devices and uses touch screen-device as her first device. Designing digital content for touch-screen natives is a new field of research within the Child Computer Interaction (CCI) community.

Designing and purchasing digital content for young children is an increasing and expanding field of business. Toy companies, publishing houses, game companies and independent entrepreneurs are producing digital content for children. Consumers in this new field of media, e.g. parents, are in a difficult situation, as they should be able to make a decision on both what is good and suitable digital content for young children and what is good design in general in this context. At the same time parents are being told to control or avoid screen time.

The debate around screen time and young children's media exposure mainly revolves around negative side effects, yet very little is known about the possible positive or negative aspects of media exposure in early childhood. It is inevitable that media usage in its various forms is an integral part of our everyday life since early childhood. Most of our children have had their own digital footprint from the day they were born. We, the parents, are amazed and enthusiastic about how smart and tech-savvy our children are, and at the same time we feel guilt over their media usage. A coping strategy for media usage of young children is needed.

The inspiration for this work arose from a personal need: as the parent of a

touch-screen native, I have exposed my child to media, and used media together with him since birth. While spending two months hospitalized, and mainly confined to bed rest during the last trimester of my pregnancy I became even more dependent on my iPad than ever before. After that experience it was very natural continuum for me to go on using touch-screen media with my child after he was born. In spring 2013 when my son was one-and-a-half years old, we reached a saturation point with our media usage: he had multiple pneumonias and infections one after another and we spent weeks indoor trying to remain sane. We were excessively using touch screen devices and media content – together as a family and individually. A touch-screen device is wonderful when you have to go to the hospital in the middle of the night: it is easy to pack, it is more hygienic than the toys in a hospital, your child can watch his favourite show while he is going through treatments, you can play comforting music from an iPad and show images taken at home and make stories around them. However I felt like I had made all the possible mistakes with my son's media education. I felt this terrible guilty on ashamed for arguing with him about the amount of media usage, while at the same time I was relieved that with the help of this magical screen I could have a little time for myself.

After our life recovered into a more normal cycle I gave the first paper presentation of my thesis. At that point the theme covered the problem of finding meaningful and aesthetically pleasing digital content that can be used together with a child. Prior to my son was born I had concentrated on finding digital content that can be used together as a family. The concept of using a touch-screen device together with a child fascinates me as a digital designer and a parent. I see this kind of multiuser interaction as wonderful set-up for learning and being creative - scholars have named using a media together as *joint media engagement* (Takeuchi et al., 2011). I wanted to find the key ingredients for an application that meets these expectations: something with an interesting and

lasting story, beautiful graphics, an innovative sound scape and interaction and an immersive user experience. I established these qualifications based on of the best children's applications that I have used together with my son.

A child does not have the competence to handle media content alone, thus consuming media together and joint media engagement are essential parts of contemporary digital parenting. As I want to use media together with my child I hypothesised that all the other parents share this same ideology with me. After conducting five (total fifteen) semi-structured interviews with parents I realized that my hypothesis did not agree with the results of my research and that the problem domain lies somewhere else. Parents were reluctant of using media together with their children, and the experience of parents regarding various media content was low.

The assumed poor quality of digital content and the problem of finding high quality applications were not the central issue of my thesis anymore. I realized I needed to investigate the research relating to young children's media exposure and study how touch-screen media is being used among families with young children in everyday life. Therefore the focus of my thesis lies in the content, context and formation of young children's media exposure and screen time.

Finding the balance between screen time and active playtime is problematic. As a digital designer, concerned parent and consumer, I see here a field of CCI that requires research and development. Managing both screen time and digital content are also new challenges for parents and educators – there is a need for realistic guidelines and reliable information to suit the contemporary challenges of digital parenting.

My research questions are:

1. How do families with young children use touch-screen media in everyday life?

– What is the meaning of content and context regarding on young children's media exposure?

2. What are the main challenges of contemporary Digital Parenting?

My thesis argues that the media competence and the media usage habits of parents are in essential role regarding young children's media exposure. The significance of up-to-date information and realistic guidelines based also on qualitative research is needed for guiding parents and educators through the challenges of digital parenting.

In my thesis I concentrate on how children use media and the digital content designed for them. The target group is children in the pre-literacy stage. In the thesis I study the topic from the perspective of both the designer of digital media and the parent of the digital native. I have divided the thesis content into three main chapters: Screen Time, Digital Content, and Context. The next chapter I introduce the current situation in the field regarding to young children's media usage and research.

2. The Media Usage of young children – Current situation in the field

The touchscreen and their native users is widely recognized phenomenon. You cannot practically go anywhere without seeing small children playing and interacting with mobile devices. Videos of tech-savvy babies who try to swipe television screens and tap images on books and magazines are distributed online. These examples and the on-going debate on young children's media exposure

are indicative of a change in contemporary media culture[1]: we have a new user group "the touch screen natives",; a new platform, "touch screen device"; and a new type of media content "the application", commonly referred to apps[2]. New terminology is being introduced to consumers who in this case are parents and educators: screen time, apps, touch-screen devices, digital parenting, digital literacy and app gap to name a few. It is difficult to keep up with the new technology, content, and context. Many organizations, and even private persons offer guidelines and instructions for parents and educators but the data is scattered all around the Internet. Thus getting started might be difficult, and at the very least, time consuming, while there is also the issue of the information provided by the various sources. It has been recognized that media usage is currently an integral and essential part of everyday family life. Therefore, knowledge of media usage is necessary for setting the grounds for all the fields of our society (Suoninen, 2013, p.8).

The evolution of the mobile device has already changed the way in which adults communicate and interact with media. But how do these rather expensive high-end devices that have been designed for adults end up in the hands of babies and toddlers? *The pass-back effect* is a family media-trend that dates back to 2009, when a group of researchers from New York based in *The Joan Ganz Cooney Center* made informal observations in public places of young children playing with touch-screen devices (Chiong, 2010). The pass-back effect happens when an adult, usually a parent, passes his or her own mobile device to a child (Chiong, 2010). Something that started as pass-back effect is in the year 2014 internationally expanding business for various stakeholders and a recognized field of research. At the moment the pass-back effect plays a significant role in the formation of young children's screen time.

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1 Media culture is designation for the era, where we live and observe the world through media (Niinistö et al., 2006).

2 The Apps are "end-user software applications that are designed for a cell phone operating system and which extend the phone's capabilities by enabling users to perform particular tasks" (Purcell et al., 2010, p.2)

2.1. Zero to Eight 2013 and Finnish Media Barometer 2013

It is said that young children have access to multiple types of media and that they are consuming more electronic media than ever before (Gutnick, 2011), but what is the amount of commonness and consumption we are dealing with? Here I will introduce two reports from a large sampling, and present their key findings to illustrate the type of research that has been done and the trends that have appeared regarding young children's media usage. *Zero to Eight – Children's Media Use in America 2013* and *Children's Media Barometer 2013* (Finland), cannot be compared directly due to differing structure and methodology of the surveys, however they do give overall view of the situation in relation to studies and young children's media usage. Both reports cover the same target group, children from 0 to 8 years old, and they both have a comparison with a previous study, although the comparison is incomplete.

Zero to Eight – Children's Media Use in America 2013	Children's Media Barometer 2013. Media uses of 0 - 8 year-old children and changes in media uses during the 2010.
The survey was designed by Common Sense Media and conducted by GfK May to June 2013 Report date: Fall 2013 N = 1463 (completion rate 50%, margin error +/- 3.5)	Finnish Youth Research Society and Annikka Suoninen. Funded by Ministry of Culture and Education May to August 2013 Report date: Spring 2014 N = 917 (response rate 31%)
DESCRIPTION and METHODS:	
Media use and how it has changed over the past two years among children aged 0 to 8. This survey includes a comparison with the first national children's media use surveys conducted in 2011. Study is based on a large, nationally representative sample of respondents who were randomly recruited to participate using address-based sampling and random-digit-dial telephone surveys. Households were provided notebook computers and dial-up internet access for the purpose of participating. The survey were offered both **English** and **Spanish**. The survey includes **socio-economical mapping**.	To provide reliable and nationally representative information of **young children's media usage** for various stakeholders, such as for developing media education methods. This survey presents a comparison with the previous Media Barometer conducted in 2010. The data were collected by means of a postal questionnaire and the respondents were given a possibility to choose internet survey. Respondents were randomly recruited to participate using the data from Population Register Centre. The sample enclosed **only Finnish** speaking inhabitants of mainland Finland.
AUTHORS NOTE:	
All results are based on parents' responses to questions. No parent's estimate of their child's media use is likely to be exact but the the results are a highly reliable method of documenting the media usage of children. Mobile media is used to refer to smartphones, tablet devices, and ipod's.	Low response rate may compromise generalization of the results. Many of the paper responses were covered with food or coffee stains or children's drawings. The survey does not have special section for mobile media.

Both these surveys examine the general population, but *Zero to Eight* pays attention also to the lower-and-middle-income demographic, and hence demonstrate the existence of *app gap*, i.e. a form of digital divide. Even though the ownership of mobile device has increased since 2011 the gap remain large (comparison with Zero to Eight 2011). In addition to ownership of a mobile device with access to media content, app gap is an issue of digital literacy and media education. It is presumable that app gap is a global phenomenon similar to digital divide, and the inequality between countries, regions and demographics is real and worth to remember.

A Special theme examined in *The Children's Media Barometer 2013* was the role of

media in interaction among family, and especially the correlation between the parents own media usage and that of the child's. Unfortunately, the results of this examination are yet to be published. *The Barometer* states the importance of getting parents involved in their children's media usage. While parents are familiar with the audiovisual content (children's program) used by their young children, but online content and games remain unfamiliar and less controlled by the parents. Regarding the level of interest of young children in games and playing it "is alarming that the interest of the parents seems to decrease distinctly when children are 5-6 years old " (Suoninen, 2013 p.73).

The survey also revealed that parents do not perceive using online video services (for example YouTube, Yle Areena) as an internet-related activity. Two thirds of the parents, whose children watched online content, reported that their children have no access to the Internet at all. The popularity of video-sharing sites as the first sites very young children visit has been is recognized. The ease with children can access inappropriate video content is of concern. (Holloway et al. 2013, p.4). *YouTube* is the most popular site in every age category (0 to 2, 3 to 4, 5 to 6 and 7 to 8 years of age). Considering the basis of child welfare conducted regulation of age limits, the source of the audio-visual program is important: online video services such as YouTube are outside the scope of Finnish legislation (Suoninen, 2013, p. 65). Based on these reports, two emerging trends can be seen.

Trend 1. The Mobile Media Multiplication

Access to mobile content is higher than ever before. Using mobile media is taking time from traditional screen media.

Trend 2. New ways of watching children's television program

Although television still dominates young children's media time there are several

changes as to how and when children watch programmes. An increased use of the internet and online video services, time-shifting options and the increased amount of mobile device have created the new way to consume media that is not dependent on time or location.

It is possible to detect trends from quantitative survey data, but these results are giving only suggestions of the versatility of media the environment and the media usage of families (Kavi&Cupore, 2012, p.74). The commonness of young children's media usage has been studied but the lack of inclusive data on touch screen device use among children and need for new research methods is reported in several context (Suoninen, 2013; Kavi & Cupore, 2012; Gutnick, 2011; Kotilainen, 2011; Gutnick, 2010;). The lack of data focusing on young children's media usage may also reflect the difficulties with collecting data via using traditional methods such as surveys, observations, and interviews (Kotilainen, 2011; Livingston et al.2008;). Reporting and investigating young children's media usage requires multi-disciplinary approach for gathering comprehensive and contemporary information for parents, policymakers and designers. This information is also important for developing media education, targeted at both children and their parents, and as the basis of media educational legislation and initiatives (Suoninen, 2013). In next chapter I will introduce the methods and data of this thesis.

3. Methods and data

Sources of quantitative data regarding the media usage of young children already exist, however very few studies have commented on the qualitative side of the topic. I wanted to investigate in detail the way in which media is being used in families, the types of media content young children use and parents' feelings about their children's media usage. To collect qualitative data on the

media usage I organized 15 semi-structured interviews for parents and custodians (Appendix I). According to Hirsjärvi & Hurme semi-structured interview is an especially suitable research method if the topic is uncharted, there is a need to place the interviewees' speech into a larger context and to define the topic with additional questions (Tutkimushaastattelu: teemahaastattelun teoria ja käytäntö p.35). The authors also draw attention to the fact the that semi-structured interview is a time consuming research method and that the professionalism and the experience of the interviewer plays a significant role when evaluating the success of the research (Hirsjärvi & Hurme, p.35).

The interviews were held during the period of October 2013 to May 2014. Some of the interviewees were acquaintances (7) and the remainder I met for the first time during the interview (8). All of the interviewees were recruited via word-of-mouth. All the interviews were held either in coffee shops or homes, except for one that was held in the interviewees' place of work. All the interviews were recorded using a free audio recording application for the Apple iPad, and no notes were taken during the interviews. Hurme and Hirsjärvi (p. 126) emphasize that the motivation of the interviewees is the key element to conducting a successful interview. If the interviewee is not motivated, she will give superficial answers and she will want to end the interview as quickly as possible. All the interviews were successful, apart from on. In that case the interview was held at the interviewee's place of work during the lunch hour and the interviewee was distracted by the upcoming afternoon tasks at work.

Some parents and custodians declined my interview request for an interview, stating that they did not "use media and touch-screen devices". Although it would have been beneficial for purposes of this thesis to investigate the reasons why families do not use media, I have nevertheless concentrated on the media usage of young children.

Although the chosen semi-structured method was time consuming, it produced essential data for this thesis. The feedback received from the interviewees was positive, and they said it was a "thought provoking", "inspiring" and "eye

opening" experience.

During the research process I also organized semi-structured interview with a professional media educator. I interviewed Mrs. Anu Ruhala, executive director of the Media Education Centre Metka. I planned the structure of the interview in advance (appendix II) and the interview was conducted in May 2014. Interview was recorded and it also had a strong conversational element.

In June 2014 I participated in the Interaction Design and Children Conference (IDC-2014) held in Åarhus, Denmark. The main theme of the conference was play and its different roles in the context of media. This conference was inspirational and useful for furthering my thesis. My participation was sponsored by the Aalto ARTS-foundation through a 400€ grant.

In next chapter I introduce guidelines and research regarding on screen time.

4. Screen Time

One Screen Time for different kind of screens, contents, and media users?

"Is screen Time killing our kids' brain cells?"; "How to Limit Your Child's Screen Time"; "Screen Time: Using Parental Control Software to Set Logical Limits."; (Taylor, M, 2013; Becker, J, 2010; Parkinson, A, respectively) these are just a few examples of the headlines on the Internet. Controlling and managing screen time are popular topics on blogs and media education-related web pages.

Screen time refers to the time spent viewing or watching television, videos, computers, digital games, hand-held devices such as touch-screen devices and other visual devices. Screen time has been used as a generic measuring method for different types of media consumption, and it has been studied since the early days of the proliferation of television in the mid-twentieth century. In this chapter the focus is on young children's media consumption and touch-screen devices including smart phones, computers and television but leave off texting

and social networking due to target groups' lack of reading and writing skills.

The origin of the screen time-related research is based on television as a medium and on its negative impact on young children. The focus of that research has been on limiting the amount of time spent viewing television and on the negative side effects of the sedentary time, mainly obesity (Helajärvi et al. 2013; AAP 2011; Hancox&Poulton, 2006; AAP 2001;). The negative effects of screen time such as obesity, metabolic syndrome, and diabetes, have been widely studied for several decades. The role of media usage in children with self-regulation problems has been studied and found correlation (Radesky et al., 2014). Although television is still the predominant medium for children and adolescents, new technologies are increasingly popular (AAP, 2013). According to the American Association for Pediatrics (AAP) nearly one-third of television programming is viewed on alternative platforms such as computers, iPads, or cell phones (AAP, 2013). However studies related to screen time of interactive media usage are only beginning to emerge. The quality of content and context has only recently been taken into account when exploring the concept of screen time.

Media exposure and screen time for young children has increased dramatically since the evolution of hand-held devices, especially touch-screen devices. *The Children's Media Barometer* (2013) points out the increased growth and frequency of young children's use of touch screen devices (presented in chapter 2) but surprisingly does not comment on the duration spent using media device or the content. Numerous research reports on the increased use of touch-screen devices (Holloway et al. 2013). However, the amount of research-based knowledge of the media usage on young children is very limited (Holloway et al. 2013). Thus far, finding comprehensive research data on young children's screen time, where content, context and also the positive sides of media exposure are studied has been difficult. For example AAP draws attention to the content and positive aspects of pro-social media, such as learning, teaching empathy, tolerance and other interpersonal skills, but they have not implemented these into their Screen Time guidelines (Managing Media: We need a Plan, 2013).

Instead of describing screen time as the passive viewing and listening of media, there is a need to emphasize the many forms of screen time such as playing, being creative and being active in a mental or physical way (LeMay, et al., 2013, Sweetser, et al., 2012). As discussed later screen time can be dynamic, interactive and collaborative. Few research comment on the definition of the term screen time or devote attention to various types of screen time, such as active and passive screen time, and to the context of using media (Radic, J., 2013; LeMay et al., 2013; Sweetser, P., 2012;). Using media devices and interacting with media needs a more detailed definition for screen time. Due to an evolving and widening variety of media content designed especially for the touch-screen device the term screen time needs to be adjusted and updated.

Parents, educators and legislators are facing new challenges when managing and trying to understand new digital contents and the screen time. When observing the media exposure, children need guidance and supervision from parents and educators. The question of what is a suitable amount of screen time for a child is complex and needs to be redefined in such a way that both context and content and the needs of an individual child comes in given a more relevant role (Guernsey, 2007). According to Ruhala (Ruhala, 2014) the question of how much screen time is appropriate for my child, is constantly asked in parental meetings and the question has so far remained unanswered.

4.1 What the parents said

How families with young children use touch-screen media and how screen time is formed were the main themes in screen-time related part of the interview (appendix I). The questions varied from the familiarity of the term screen time to possible rewarding a child with screen time. Here I present the summary of the screen-time related questions of the interview.

Parents were asked how (and for what purposes) and in which situations their child or children use touch-screen device and applications for it. Unplanned and impulsive use of the touch screen device was very common. The duration varied

from a couple of minutes to longer periods (up to an hour, or more) depending on the situation. Most often the children were watching online video content from Yle Areena or YouTube.

In most cases a touch-screen device was passed on or systemically given to a child to keep him or her quiet and satisfied while the parents were occupied with another task. Travelling and being in public places (restaurants, shops) were very commonly mentioned. In addition most of the parents report that they also need time for themselves at home and they are willing to give a device to a child, even if that action carries "the risk of a fight and tears when it is time to take the iPad away".

All the parents were familiar with the term screen time but over half preferred the term "peliaika", or playing-time in English. This also states that "playing" is the most common way of interaction with touch-screen content. Media time seems to be contemporary a "digital candy": In many families playing-time or screen time was used for controlling, rewarding and punishing a child. A child could lose playing-time for a day or for the rest of the week for something that has no connection at all with using media.

Most of the parents said that arguing over screen time is a constant issue. Some of the families had banned all devices except a television, for a certain period of time due to continuous arguments between siblings or parents. The parents were worried that their children were too "immersed in the ipad" or "wanted to watch all shows in a row". The most problematic scores were ending the media session and channeling the child's attention to somewhere else. In these cases, the children were using touch-screen devices alone while parents were occupied with something else. Older children (5 to 6 years old) wanted to have more playing-time than had been originally agreed. The parents were familiar with side effects of too excessive media usage such as restlessness.

None of the families had a media consumption plan. However, they did place restrictions on media usage, which were determined mainly by the content: in one family the children were allowed to watch YLE-channels (Finnish National Broadcasting Company) without parental supervision, but the commercial

channels were forbidden. In addition, some games such as Angry Birds –games were banned because ”a child would not stop playing”. Most of the children were not allowed to use media without a parent’s permission, even if the parents did not co-view programmes, or use the media with them. Some of the families had hidden all touch-screen media devices, including the parents’ cell phones due to their children’s constant begging for screen time. Children under 3 years of age, in particular, were among this group. In these cases, some of the parents found it impossible even to use their own cell phones for phone calls in the presence of a child or children.

Several parents mentioned experiencing guilt and uncertainty over their children’s media usage. Managing screen time was problematic and parents felt that it was difficult to know how much screen time was right for their child, not to mention the suitability of the content itself. Media educator Mrs. Ruhala regularly speaks with parents and educators regularly at parental meetings and educational sessions. Ruhala mentioned that “the fear of being a bad parent if a child uses media or the media consumption is not under control” is present at the meetings, and “parents feel ashamed of their children’s media usage”. She explained that the mechanism behind guilt might be result from the situation ”where the needs of the parents constantly cross the needs of children that may cause feelings of shame and guilt” (Ruhala, 2014). Ruhala higlights the qualities of an individual child more than giving one screen time guideline to parents: ”for one child, 30 minutes playing-time every day is just fine, but for another child that might be too much”. The role and activity of parents as co-viewers and curators of the media content plays an essential role when dealing with young children’s media usage.

4.2 Recommendations

Several organizations, governments and legislators have issued recommendations for young children’s media usage. These guidelines are mainly homogenous, and most of the studies do not separate active and passive screen time or consider the variety of screen time and the context of the media exposure. In the next section I describe and analyse four sets of guidelines and recommendations from

Finland, the USA, Canada, and Australia. I use direct quotes to illustrate that the guidelines are aimed at professionals, instead of parents. Most of the recommendations are based on the work of the American Association for Pediatrics (AAP), who issued their first media usage guidelines in 1997, second version was released in 2001 (Children, Adolescents, and Television). An updated version was released in Autumn 2013 (Children, Adolescents, and the Media).

4.1.1 Finland

Finnish National Board of Education and *Nuori Suomi ry*

The origin of the Finnish screen time recommendation rests on *The basic recommendations for the physical activity of school-aged children* (Finnish National Board of Education ja Nuori Suomi ry, 2008):

> "All 7- to 18-year-olds should be physically active for at least one to two hours daily, in a variety of ways suitable for each age group. Continued periods of sitting for more than two hours at a time should be avoided. Screen time with entertainment media should be limited to two hours per day" (p. 9).

This recommendation is focused on reducing the passive time of Finnish school-aged children. It is a statement against the increased amount of time spent in front of screens: in 2008 majority of Finnish youth spent 6 to 8 hours in front of screens including television, video games and the various ways of using computers. According to the Finnish National Board of Education and Nuori Suomi, this amount of screen time indicates a lack of physical activity and sleep. Using screen media also forces the child into a sedentary mode and static postures and may cause excessive muscle tension. The authors also make a reference to "new innovations" such as computer games with physical interfaces, and they encourage children to prefer these to passive, sedentary games. (Finnish National Board of Education ja Nuori suomi ry, 2008 p. 24). *Recommendations for physical activity in early childhood education* was published in 2005

(Handbooks of the Ministry of Social Affairs and Health), and it does not include any screen time recommendations or guidelines for young children.

Various Finnish organizations such as the Finnish Heart Association, and the Mannerheim League for Child Welfare, and municipal maternity clinics provide information on screen time and media exposure of young children. It would seem that all these recommendations are similar and are based on the work on National Board of Education.

4.1.2. American Association for Pediatrics, AAP

The AAP employs a wider approach and they include parents and caregivers in their guidelines. The AAP's the guidelines are created by Council on Communications and the Media Executive Committee and are based on the research and expertise of the committee. The AAP encourages pediatricians to take into account child's media history by asking two media questions at every well-child visit: "How much recreational screen time does your child or teenager consume daily?" "Is there a television set or Internet-connected device in the child's bedroom? " (Children, Adolescents, and Media, 2013). According to the AAP the average 8- to 10-year-old spends nearly 8 hours per day with different media, and older children and teens spend more than 11 hours per day. They also state that placing a television in a child's bedroom results in the child spending more time with media (Managing Media: We Need a Plan, 2013).

AAP Media usage guidelines 2013:

- Limit the amount of total entertainment screen time to <1 to 2 hours per day.
- Discourage screen media exposure for children <2 years of age.
- Keep the TV set and Internet connected electronic devices out of the child's bedroom.
- Monitor what media their children are using and accessing, including any Web sites they are visiting and social media sites they may be using.
- Co-view TV, movies, and videos with children and teenagers, and use

this as a way of discussing important family values. Model active parenting by establishing a family home use plan for all media. As part of the plan, enforce a mealtime and bedtime "curfew" for media devices, including cell phones.

- Establish reasonable but firm rules about cell phones, texting, Internet, and social media use.

Therefore, the AAP advises screen time to be avoided for children under two. They state, "Television and other entertainment media should be avoided for infants and children under the age of 2. A child's brain develops rapidly during these first years, and young children learn best by interacting with people, not screens", (2013). It is likely that the role television is strong in American society and thus it has a significant role in the AAP recommendations. AAP recommends maximum two hours of any type of screen media for children ages 3 to 18. (AAP, 2013).

4.1.3 Canada: Case Toronto Public Library

Another position comes from the Toronto Public Library and the commercial usability agency 'Usability Matters' (Screen Time for Children, 2013). They collaborated in 2013 to determine parents' attitudes towards screen time and to resolve the issue of whether the library should be offering online services for children aged 5 and under. They divided screen time into a quadrant diagram where they have two age groups (0 to 2, 2 to 5) and segments for passive, active, children alone -screen time and together with parent -screen time. To collect this information Usability Matters organized interviews with parents, workshops with the steering committee of the project and in addition a literary review. They argued that "there was no clear consensus" with in families and their screen time practices (LeMay et al. p. 281).

Even though they do not recommend any passive screen time for children under two, they describe situations where parents need something "to keep their child occupied for just a few minutes while the parent completed a task" (LeMay et

al., p. 291). LeMay et. al also draws attention towards effective use of technology for preschoolers under two that is "active, hands-on, engaging and gives the child control and has a clear interactive role for parents or other adults" (Screen Time for Children, 2013).

4.1.4 Australian guidelines

The Australian government released research concerning screen time recommendations for young children as part of the *Get Up & Grow Up: Healthy Eating and Physical Activity Guidelines for Early Childhood Settings* (2009). The *OPAL Screen Facts Sheet* was also published by the Australian Government (2009) and it is focused on reducing screen time. Both publications describe the negative impacts of sedentary time and the meaning of physical activity as a part of promoting healthy lifestyle (Get Up & Grow Up p.75) and the link between obesity and electronic media use that consists mostly of television viewing (OPAL, 2009). The Australian government's screen time recommendations suggest that all screen time is physically and cognitively sedentary and that screen time detracts from active and creative play, while also leading to unhealthy eating habits (Sweetser, 2012).

- Children younger than two years of age should not spend any time watching television or using other electronic media (DVDs, computer and other electronic games) (Get up & Grow up, 2009 p. 76).
- For children two to five years of age, sitting and watching television and the use of other electronic media (DVDs, computer and other electronic games) should be limited to less than one hour per day (Get up & Grow up, 2009 p.77).
- Infants, toddlers and pre-schoolers should not be sedentary, restrained or kept inactive for more than one hour at a time with the exception of sleeping (Get up & Grow up, 2009 p.78).

Australia's Physical Activity Recommendations recommend that 5-18 y.o accumulate no more than 2 hours of screen time a day for entertainment (excluding educational purposes) (OPAL, 2009),

4.3 Screen time = Sedentary time

Most of the recommendations above are based on the premise that screen time is equals sedentary time. The fear of raising a new generation of 'couch potatoes' is not fictional. The dangers of being physically inactive have been proven. Excessive media use has been associated with obesity, lack of sleep, problems at school, and aggression and other behavioral issues (Managing Media: We Need a Plan). Children's media usage appears to change dramatically among children aged 7 to 8 years old: in 2010 American children aged 8 to 10 spent approximately 5.5 hours each day using media, but their total media exposure was almost 8 hours a day, because of multitasking with media. The majority of that time, more than 3.5 hours per day, was spent watching television. (Always Connected, 2010). Another study stated that children in the USA aged 8 to 18 are exposed to media for 10 hours and 45 minutes per day (Kaiser Family Foundation, 2010).

It has been argued that excessive media use can lead to attention problems, school difficulties, sleep and eating disorders, and obesity. In addition, the Internet and cell phones can provide a platform for illicit and risky behaviors (AAP). It is noteworthy to remember that most of these ominous results are based on the use of passive screen media and continuous sedentary lifestyle, that is a recognized health hazard (Istu ja Pala!, 2013).

4.4 Different types of screen time

Though passive media use seems to be popular from early age, the digital content targeted at young children and parents offer various options for interaction from passive viewing to physically and cognitively active playing and learning experiences. Thus, it is not appropriate to presume that all screen time is equal risky and has only a negative impact on a child's growth and development. The following classification was originally presented in *Active versus*

Passive Screen Time for Young Children by Sweetser, Johnson, Ozdowska, and Wyet 2012, and here I will elaborate and illustrate it with examples from my own research and other sources.

4.3.1. Passive Screen Time

Passive screen time is the sedentary watching and listening media content that does not involve physical interaction. Passive screen time can form around the use of television, DVD's, computers, smart phones and touch-screen devices. Very often passive screen time involves using Internet services such as Netflix and YouTube. Only recently have the benefits of media, such as shows like "Sesame Street" and similar been acknowledged (AAP, 2013). Apart from those of the AAP, none of the guidelines or recommendations comments the possible positive effects of passive screen time or the meaning of a good story for a child.

The importance of fairytales and stories for a child's emotional development such as the development of empathy, is significant. A child will identify with the characters in the tale and sympathize with their feelings. Experiencing feelings helps a child to develop the ability to control and recognize his own feelings. (Mediametkaa!, Mustonen, 2006) The characters in media can deliver both positive and negative operating models for children. These characters and the themes from media integrate themselves into a child's imaginary world and provide inspiration for new games (Mediametkaa!, Mustonen, 2006). Thus, the media content merges with a child's everyday life. The difference between the narrated story and the viewed story is found in the child's ability to control the elements of the story: a child can monitor the emotional power of the narrated story and imagine it as scary and vivid as he dares, whereas a movie is already illustrated, and a child might have difficulties coping with the content (Mediametkaa!, Mustonen, 2006). Therefore the role of parents and educators as co-viewers is important when a child is having difficulty with understanding media content, for example recognizing the difference between fact or fiction or having feelings that are too extreme for her stage of development.

4.3.2. Active screen time

Active screen time can be defined using two subcategories: physically active screen time and cognitively active screen time.

Physically active screen time typically involves a screen and a sensor device or controller for tracking the movements of the user. Some examples of the products are designed especially for exercising and some contain games or adventures wherein the user can play various sports or their develop balance, or dance with other users or with a digital dance partner. Physically active screen time also includes also relevant amount of cognitive active elements: playing games or using physical interfaces for creating stories are not only physical activities, but are holistic and immersive experiences for the user.

4.3.3. Cognitively active screen time

Framing and classifying active screen time for toddlers is a difficult question – is it about playing a game or learning with media content or something other? Children under five are usually at the pre-literacy stage and their developing ability to understand causality and separate fact from fiction creates versatile opportunities for designing meaningful digital content and experiences. Is playing a poorly implemented game better screen time than watching age-appropriate, engaging content from television? What kind of cognitively-active-screen-time solutions it is possible design for children depends on media designers and the industry itself, not to mention the consumers: the parents of touch screen natives, and their own media consumption habits.

"Creating sounds, recording singing and sounds, drawing, sorting, tracing, counting, finding, hiding, learning words and abstract concepts, tilting and rolling objects, scaling, filming, taking photos, making collages, narrating, story telling, animating, communicating with other people, and sharing." These are actions related to the various ways of using the touch-screen applications on the

market. *Active touch-screen time* could be the ideal term for defining screen time for young children.

Next chapter covers the digital content designed for touch screen device and how familiar parents are with this content and on which basis purchasing is done.

5. Digital Content

In this chapter the focus is on apps distributed via App Store[3]. The App Store opened on 2008, year after when the iPhone made its debut. On April 2009, the one-billionth App was downloaded only less than year after the opening (Apple, 2009). The iPad launched in 2010 with over 3000 applications designed for it. Eight months later over 50000 apps were available for the device. Less than year and a half later, there were over 100,000 apps available in the App store specifically designed for the iPad. (iPadhelp.com, 2011). In September 2014 there are over 1,3 million apps in the App Store and more than 75 Billion downloads. The App Store developers have earned over $15 billion since the inception of the App Store.

Among those 3000 first apps in 2008 there were more than 500 apps labeled as educational that help to teach skills such as math, reading, a foreign language, and science (Prabhu, 2008). *iLearn II – An Analysis of the educational Category of Apple's App Story* from year 2012 state that "over 80% of the top selling paid apps in the Education category of the iTunes Store target children", and "The percentage of apps for children has risen in every age category, accompanied by a decrease in apps for adults" (p.3). Apps designed for toddlers and preschoolers were the most popular age category and experienced the greatest growth since 2010, and the most popular subject was *general early learning* (Levine, 2012).

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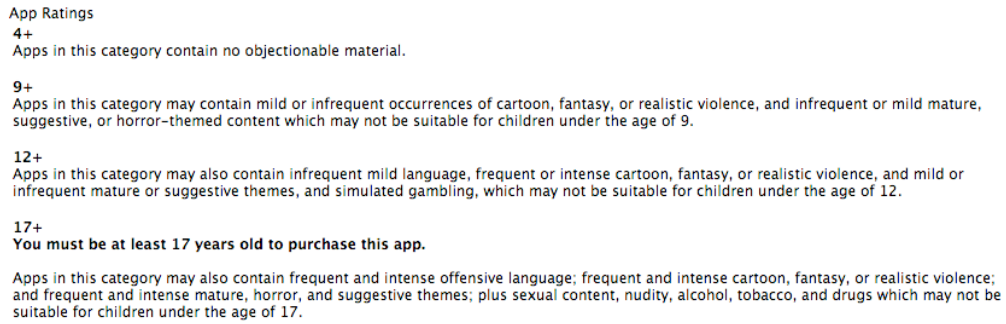
3 The App Store is a digital distribution platform for mobile apps on iOS, developed and maintained by Apple Inc. (http://www.apple.com)

Only last year, in September 2013, Apple introduced the Kids category as part of the App Store. Previously customers could find apps targeted to children among other categories. Kids category is broken down by following age categories: 5 and under, 6 to 8 years, 9 to 11 years. However the apps are also labeled with age limits that differ from the age categories.


App Ratings

4+
Apps in this category contain no objectionable material.

9+
Apps in this category may contain mild or infrequent occurrences of cartoon, fantasy, or realistic violence, and infrequent or mild mature, suggestive, or horror-themed content which may not be suitable for children under the age of 9.

12+
Apps in this category may also contain infrequent mild language, frequent or intense cartoon, fantasy, or realistic violence, and mild or infrequent mature or suggestive themes, and simulated gambling, which may not be suitable for children under the age of 12.

17+
You must be at least 17 years old to purchase this app.

Apps in this category may also contain frequent and intense offensive language; frequent and intense cartoon, fantasy, or realistic violence; and frequent and intense mature, horror, and suggestive themes; plus sexual content, nudity, alcohol, tobacco, and drugs which may not be suitable for children under the age of 17.

Image: The App Store age ratings (http://app-store.appspot.com/?url=appRatings)

In some cases developers have added information regarding on the actual target group such as "especially suitable for 2-4 years old" (Kaputoys, Kapun metsä -app).

Children's Online Privacy Protection Act (COPPA) have set requirements for apps aimed at under 13 years old: developers can not ask for personal information or the apps can not transmit or share personal information without parental consent. (http://www.ftc.gov/ogc/coppa1.htm).

Apple released their first guideline set for developers in 2010, for acceptance into App Store. Apple expressly urges developers to create high-quality, professional and unique content and protect children from inappropriate content (https://developer.apple.com/app-store/review/guidelines).

24. Kids Category

24.1 Apps in the Kids Category must include a privacy policy and must comply with applicable children's privacy statutes

24.2 Apps in the Kids Category may not include behavioral advertising (e.g. the advertiser may not serve ads based on the user's activity within the App), and any contextual ads presented in the App must be appropriate for kids

24.3 Apps in the Kids Category must get parental permission or use a parental gate before allowing the user to link out of the app or engage in commerce

24.4 Apps in the Kids Category must be made specifically for kids ages 5 and under, ages 6–8, or ages 9–11

Image: The App Store guidelines for Kids category
(https://developer.apple.com/apstore/review/guidelines/#kids-category)

App Store Kids categories have subsections for different types of apps: educational, books, games, entertainment, images and videos. For consumers the differences between apps placed in categories seems vague. Apple has also make collections such as "Create&Play" and "Interactive Kids Stores" for guiding the customers inside Kids category. The developers decide under which category their apps are organized under, and that has caused a broad range in the educational quality of the apps. For the consumers knowing if the app is truly educational may be difficult. It is suggested that Apple should "consider introducing more specific guidelines around which features of content constitute inclusion in the education category of the App store" (Chiong, 2010, p.23). Schuler et al. state already in 2009 that "there is no way for parents or children to tell if an App is truly educational, or simply marketed as such" (p.9). The authors demand on "industry standards that should be established around marketing products for children" (p.9).

5.1 What the parents said

The Parents were asked to list the types of apps designed for touch-screen devices that their children use and to give the basis on which the decision to download or purchase was made. Two apps were presented to the parents, and they were asked for their first impressions of them and if they would use these apps together with their children. These apps were *Little Fox Music Box* by Fox and Sheep GmbH and *Moomin, Mymble, and little My* by Spinfy.

None of the parents had heard of app-rating web sites, which are mainly American services provided for parents. In some cases, a friend or co-worker of the parents, or relative had provided the recommendation for an app. How much time and effort parents use on finding apps for their children appears to vary widely among the families. All of the parents had an opinion regarding what is constitutes suitable digital content for a young child, and they all expressed an interest in purchasing high-quality apps that can be used together as a family. However, only a minority of the parents interviewed stated that they were using apps together with their children.

Parents often made the decision to download or purchase new apps as a result of the pass-back effect. In these cases families were often on the move, outside of the home, and need for new an app was acute and the goal was to keep a child or children satisfied and calm until they returned home. The need being acute, the price of the app in question was meaningless. YouTube or other video services were also often being accessed in these acute situations.

The following attributes were mentioned by the parents as guiding their decision to download and purchase an app: "It was first on the list", "I download only free apps", "their (children's') cousin have the same app", "we have other apps from same company, and we have been very satisfied with the quality", and "that looked really nice". The most often mentioned attribute was the price of the app. Some of the parents were quite reluctant to pay for digital content designed for children. They elaborated, "It is difficult to know if it is worth paying". Some of the parents did not want any apps with an in-app purchasing option, as it would cause disappointment for children when their parents did not want to buy new feature for a game app. In some cases women were reluctant to take on the responsibility of purchasing the digital content and the role of a father was to be a tech support and media manager of the family. Parents did not give too good credits for App Store for promoting different apps for children.

All of the parents held some opinions regarding the quality and suitability of

apps for young children. “It needs to be logical, so kids can use it alone”, “If it is technically too difficult for small fingers, it is going to be a frustrating experience”, “Usually everything with cars is ok for my child”, and “Some of the games are too addictive – my child won’t stop playing”.

Stories and fairy tales were mentioned many times as providing good context for apps. In addition, “e-books with some interaction” were mentioned by some of the parents. Shooting and other violent elements were not objective, and it was stated, “the noice that comes from the games is annoying” even though they did not participate in playing or watching the game.

Parents were asked what they considered the features of a good app to be, and what types of apps that can be used together with their children they would purchase. This question received enthusiastic feedback and some of the parents started to ‘design’ an app as they spoke. They could meticulously, and with surprising skill, describe interaction in apps even though they were not digital designers. They asked questions of me regarding the limitations and possibilities of touch-screen interaction and content. Some of the parents remarked that they have “never even considered that they could use apps together with their children”.

a. *Sustainability* was very important for parents: they did not want to purchase disposable apps. They mentioned “good story” and “enough interactions so they could use it many times”.
b. *Appearance* was mentioned many times: “It needs to be beautiful with high-quality drawings and graphics”.
c. *Sound* was also mentioned several times: “Nothing too annoying or repetitious or irritating like sirens”, and “not too loud”.
d. *Educational and supportive content* was mentioned by over half of the parents. “If it would help my child to develop his speech or vocabulary”, “maybe something that has a connection with real world or his cognitive development phase”, and “something to do with learning to read or math”.

When discussing different types of apps available it was clear that for most of the parents all apps are "games" and the activity is "playing". The level of general knowledge regarding app categories and the various forms of interactions was quite low.

I presented *Little Fox Music Box* and *Moomin, Mymble, and little My* apps to the parents and asked for their first impressions and their willingness to use this type of content together with their children. I also presented App Store categories, and asked the parents to place the presented apps under a category and estimate a price level for them. The selected apps were chosen due to their high quality and for their suitability for both young children and for joint media engagement. None of the parents were familiar with the apps in advance.

Although the *Moomin, Mymble, and little My* –app was not familiar the original Moomin-book by Tove Jansson with cutout pages was familiar for most of the parents and it conjured up memories from their childhood. This app was easily understood as e-book with interaction and narration option. Its sound design, hidden animations and graphics received much positive feedback. The parents were willing to pay approximately 3 Euros for this app.

Placing *Little Fox Music Box* into a category was abmore difficult task. Some of the parents wanted me to explain the goal of the app in advance, and they were truly surprised that it was not a "game" where you "collect points". A few of the parents were reluctant to explore *Little Fox Music Box* because they did not know what to do with it. One of the parents asked, "How do you know when you are done with this app". Little Fox Music Box is a sing-along songbook with interactive animations, and contains three songs and a studio where you can play and record sounds. Its graphics, animations and sound scape received considerable amount of positive feedback. In particular, the parallax feature was mentioned many times and described as "magical". The parents were willing to pay 2 to 3 Euros for this app.

Both these apps have a strong visual language and are located in a magical world with hidden interactions and surprising features that entice young users to explore the app. The parents elaborated that these features makes an app appealing and that they were interested in purchasing the apps, but the actual price of the Moomin-app, 7,99 Euros, was too high. Most of the parents did not know of the existence of this kind of apps. The idea of 'favorite app', akin to a favourite book that you can read over and over again, was not familiar. Nor was the notion of *active touch-screen time,* or the idea of an app being "a digital toy" without gaming elements such as collecting points or finishing a task.

Parents stated that they would like to receive edited information regarding new apps and young children's media usage in general. They emphasized that the quality level of the information and the distribution channel would be essential: the information should be edited, compact and trustworthy and distributed via social media or short newsletter. All of the parents were eager to purchase apps that support joint media engagement, if they also support the development and growth of a child. A curated collection of apps categorized by age group would be the solution.

In next chapter the focus in on context where young children use media and on joint media engagement.

6. Context

The evolution of media culture seems to have a fear built in for every decade: television, videos, electronic games, console games, the Internet, and most recently the media usage of very young children is under inspection. Digital media have forever changed childhood and parenting since the proliferation of the television. Besides fear or doubts the Digital Parenting is not extensively studied yet, thus empirical evidence is hard to come by (Parenting in the Age of Digital Technology, 2013). What may be the possible positive sides of Digital parenting and using media together as a family?

6.1 Digital parenting

According to Ruhala, one of the most important messages for parents 10 years ago was informing about age limits, and also about monitoring media content, especially games, by placing media equipments in the living rooms instead of children's bedrooms. (Ruhala, 2014). At the moment the role of the media content and device is ”ever closer and emerged into our families every day life more than before”. Ruhala empazises the closeness of media ”both physically and mentally”. She elaborates that media parenting or digital parenting is ”nothing too special, it is a form of parental responsibilities” and ”media is integral part of our life, we can not separate media from our life, thus we are media parents constantly” (Ruhala, 2014). Digital parenting includes also conscious actions and responsibilities. For most important qualities for today's digital parents Ruhala mention ”joint media engagement and being alert”. She says that ”we are living ordinary media life every day and us parents should be interested in the media content that our children use”.

Using digital media as parenting tool, as a tool for rewarding or disciplining children is identified phenomenon from way back. Ruhala demonstrates that ”a small child does not understand the causality between a broken toy and losing screen time. This way of punishing does not support the development of a child, and may cause more pressure on using media”. (Ruhala, 2014). According to a U.S national survey Parenting in the Age of Digital Technology many parents use media to discipline or reward children (p.17) and this phenomenon increases as the child gets older; eight in ten parents of 6- to 8–years olds they are very likely to use media and technology for disciplining a child, compared to three in ten parents of children under two (p.17). Parenting in the Age of Digital Technology also demonstrates that many parents turn to technology when there they ”need something to keep their children occupied so the can get things done around the house” (p.16).

There seem to be a slight conflict between headlines on the Internet and Parenting in the Age of Digital Technology survey results related on how parents feel about digital parenting. According to survey results the ”access to

new media is spreading rapidly, it still has not made as much of an impact on how moms and dads parents their young children suggested in popular press reports" (p.30). The survey also states that pass-back effect is not as popular as other reports suggests (p.30). According to Ruhala the parents who need the help and guidance the most, are also the most difficult to catch up with. She elaborates that, "The knowledge level of the parents varies a lot, and conflicting information does not make digital parenting any easier. Also the knowledge level and the attitudes of the early learning educators are in very essential roles when supporting and educating parents" (Ruhala, 2014). It is only speculation but the contradictory results may originate from different data collection methods and manifestation of media culture. All in all the positive sides of digital parenting reported are in a minor role. Ruhala reminds parents "to enjoy media in multiple ways and be creative among media device and content as a family" (Ruhala, 2014). She also state that media device and content used by our children will change their thinking and knowledge (of the world), "thus for a successful life, both studying and working, special media skills are needed".

6.2 Towards Joint Media Engagement

The media have always had a social aspect. Nowadays we speak about social media instead of being social with the media. The idea of using media content and device together seems quite unfamiliar in this era of pocket size personal media devices. We share, contribute and participate online with our peers, but that is not the case with our children. For most of the parents using touch screen media together with a child, co-viewing or interacting with the media content, was not familiar and the knowledge regarding various content types was low (Interview with parents, 2014). Even the awareness related to audiovisual programs was on the hands of the child. Why do parents pass the responsibility of the content to a child while they pass-back the device?

Various reports and research demonstrate that parent's interest towards their children's media usage decreases dramatically while their children reach the age of 6 to 8. (Parenting in the age of Digital Technology, 2013; Suoninen, 2013;) At

the same time the amount of co-viewing decreases and the knowledge regarding the media content used by children decreases (Suoninen, 2013; Suoninen, 2010;) The digital literacy skills of a 6 year old child are not sufficient for managing the whole content of the Internet, and very often parent's do not know what their children are watching or doing with a touch screen device (Interview with parents, 2014). Parents do read books and watch television program with children (Interview 2014; Rideout, 2006;), but it feels almost like lost opportunity if parents do not co-view, co-read or be creative together with their children's touch screen time.

The term Joint Media Engagement was introduced by LIFE Center in 2010 for describing the social interaction related to media usage. It refers to "spontaneous and designed experiences of people using media together, and it can happen anywhere and at any time when there are multiple people using media together" (from: Joint media engagement and learning). Takeuchi and Stevens, the editors of The new coviewing: designing for learning through joint media engagement state that media is being designed for individual use and there is a need for information of how media is used together, especially "media that dominate young people's time" (p.5). Thus the way media is designed needs to reform as it supports joint media engagement. Modes of JME include viewing, playing, searching, reading, contributing, and creating, with either digital or traditional media (p.9). Plainly joint media engagement is co-viewing, co-reading, and being creative together with media device and content with a discussion or a dialogue. It is demonstrated that JME support learning by providing resources for making sense and making meaning in a particular situation, as well for future situations (Stevens et al, 2010). According to Takeuchi et al. "parents are the key JME partners for young children" (p.10). Also the role of peer and siblings play significant role in JME.

7. Conclusions

Media exposure and screen time of young children has increased dramatically since the evolution of touch screen devices. Qualitative studies and data

regarding on the young children's media usage and exposure already exist, but studies related to interactive touch screen media usage are only beginning to emerge, and very few of them has commented on qualitative side of the topic. The amount of research based knowledge of young children's media usage is very limited, and only recently the quality of content and context, has been taken into account when exploring the concept of screen time.

Developing and supporting qualitative research and methods such as observation and interviews, would give the anticipated understanding of how media is being used among families with small children in everyday life. This information is valuable for many stakeholders from parents to designers, and it can be used for designing media educational legislation and initiatives. Ever changing and rapidly developing media landscape requires up to date research methods and expertise from research organizations.

Most of the screen time guidelines are given by national or international committees, and they are concentrated on the negatives side effects of sedentary lifestyle and based on quantitative research. These guidelines are targeted to professionals instead of ordinary parents, and the guidelines do not correlate with real life situations and needs of the families. The guidelines do not comment either on context and content of the screen time. Besides my own research Steven LeMay et al. (2014) has presented the only ethnography-based guidelines that has wide-ranging scope in my knowledge.

All Screen time is not equal. Using media devices and interacting with media needs more detailed definition for the screen time. Due to the evolving and wide variety of media content, designed especially for the touch screen devices, the term screen time needs to be adjusted and updated. My proposal is dividing screen time into subcategories:

1. Passive Screen Time
2. Physically Active Screen Time
3. Cognitively Active Screen Time and
4. Active Touch Screen Time for young media users

These four categories give a new dimension to the screen time related debate but are not sufficient to describe the meaning of content and context on young children's media usage.

Contemporary digital parenting has many new obstacles and also advantages compared to earlier generations. What kinds of understanding and media education skills do parents' have to accomplish to be able to navigate successfully this new media landscape. The role of parents as co-viewers, co-listeners, active media partners and digital content managers is significant. Managing screen time and digital content and participating the media usage are essential parts of digital parenting, and difficult task for most of the parents. There is a need for realistic, evidence based guidelines and information to suit the challenges of hectic lifestyle and digital parenting. Based on my research I created guidelines for parents to deal with challenges of contemporary digital parenting.

The guidelines are divided into three sections: Recognize, moderate, and participate.

Recognize. Recognizing the media usage habits of a family is a good starting point. Parents own media usage habits correlates with children's media usage. The Pass-back effect play a significant role on the formation of the screen time, and it is important to recognize what is the context and content regarding on young children's media usage. Parents are also trading me-time with touch screen time – it is very common that parent's keep young children occupied with the help of media, especially with the help of children's audiovisual programs distributed online. These are real-life use cases for young children's touch screen media, and I encourage parent's to recognize these situations and prepare with a high-quality digital content that is moderated and especially selected for a certain child or comes from a trustworthy source. By recognizing the pass-back effect, it is possible to make best out of it by providing appropriate and rich variety of media contents. Recognize also the balance between active and passive screen time, and make corrections towards active touch screen time!

Moderate. Unplanned and impulsive use of the touch screen device is very common, and the pass-back effect has a major impact also on purchasing apps. Moderate and maintain systematically the digital media library for your child. Find information on apps, read review-sites, share and seek information to and from your peers. Parents do not have the knowledge about the wide variety of digital content and possible ways of interaction and activities related to young children's media usage.

You have to pay for high-quality content. Free apps come with a price that can be poor quality and poor implementation or multiple in-app purchasing options. Respect and protect your child's individual abilities and needs by finding appropriate digital content. Do not pass the responsibility of the media content to a child, while you pass the device. Find apps that inspire and encourage you and your child use media and be creative among media together.

Participate. For most of the parents using media together, plain co-viewing or more complex joint media engagement was unfamiliar idea. Screen media was not understood as social or active part of family life, not to mention *active touch screen time* or the idea of an app being "a digital toy".

You can start by co-viewing or co-listening media with your child. Find out what kind of media content makes her happy, scary or exited. Spend passive screen time together. Talk about media content and use your imagination to expand the stories or games. Continue by playing and experimenting with media, both the content and the device itself. Try to find content that is suitable for both of you: something that is entertaining, educational and steers you towards joint media engagement. Grow together towards active ways of using and producing media by drawing, taking pictures, making animations.
Reconsider using media as rewarding or controlling method, it may put too much pressure on media usage. Banning media is a sort-sighted solution.

During the research process of my thesis I also received negative feedback on my topic from couple of early education professionals and some parents. They

assumed that my goal was to ”increase the amount of screen time” and ”design highly addictive games for young media users”. They were not willing to discuss about the topic or contribute their experiences. They were proud of their ”media-free” life, while television was still part of it. Maybe this was a result of a bad media experience or a form of ignorance, but denying the existence of new generation of media consumers and producers is shortsighted and scary. The touch screen natives are here to stay, and they will use and produce media content in a ways that are still beyond my imagination.

These comments clarified the idea of ”new media” being still new and unexplored to many adults, even professional educators. It is a shame, if ignorance and negative attitude towards media education and creative media usage is standing on the way of learning experiences.

Conflicting information does not make digital parenting any easier. The positive sides of digital parenting reported are in a minor role while the focus is on limiting and banning media and screen time. I feel the need to emphasize the various learning opportunities and positive family experiences that can happen around media. Thus media in its various forms is integral part of our family life the research should be based on empiria and ethnographic studies. Even if the designers would produce amazing apps for young media users, children needs the help form adults for recognizing the suitable content, for moderating the amount and type of screen time and for sharing the experiences with adults.

There is a need for Finnish information regarding on apps, screen time, young children’s media usage and media education. The information should be edited, targeted and distributed directly to parents and early educators. It should be activating, fun, and supportive and be based on research and peer experiences.

Writing my thesis has been a rewarding experience. The broadness of my topic reflects the situation among the field of young children’s media usage and its various stakeholders. In future I would be happy to be able to develop and continue this research towards design-guidelines for digital content that supports

joint media engagement. I also would be happy to publish these guidelines and start to work with information targeted to parents.

With this thesis, I also want to participate in the societal discussion currently taking place on the topic and present ideas for parents and designers how to use and design media content in a diverse manner. I also want to encourage parents to experiment with touch screen media and reach towards joint media engagement and teach children to create and distribute digital content.

The question about what is suitable amount of screen time for a child is complex and needs to be redefined in the way that context and content and needs of an individual child comes in more relevant role.

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Contemporary Guidelines for the Parents of the Touchscreen Natives

Recognise

The Media usage habits
The Pass-back effect
Screen time as controlling method
The Balance between active and passive screen time

Moderate

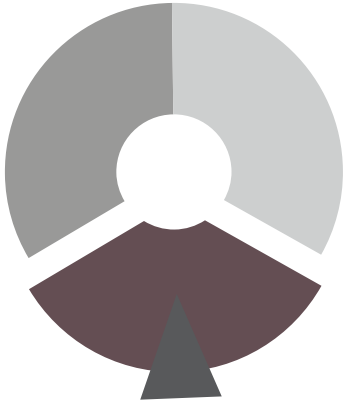
Maintain the digital content
Respect and protect
Find information on apps
Be ready to pay for high-quality content

Participate

Spend time with your childs media, spend screen time together.
Play and experiment with media, both content and device.
Co-view, co-read, make actions towards Joint Media Engagement.

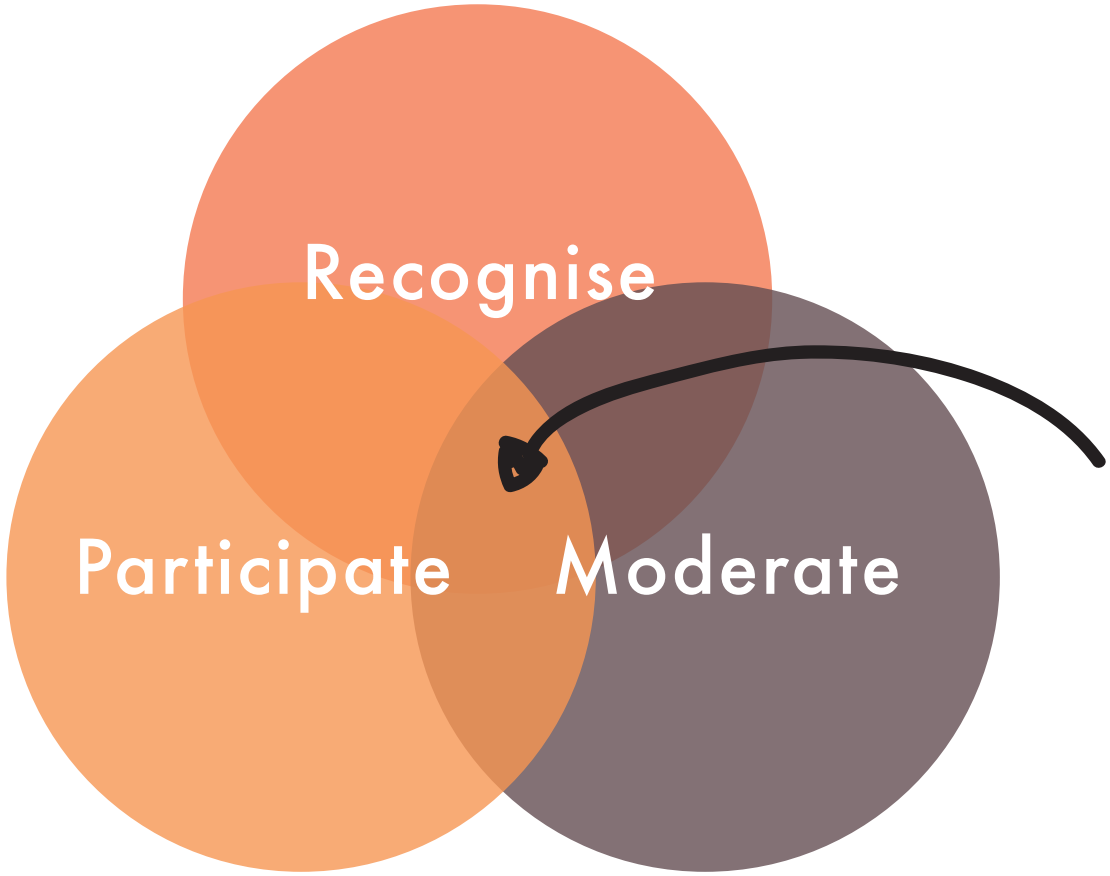
Contemporary Guidelines for the Parents of the Touchscreen Natives

Recognise Towards active touch screen time!



Moderate Do not pass the responsibility of the media content to a child, while you pass the device.

Participate Reconsider using media as rewarding or controlling method – Banning media is a sortsighted solution.



Ideal touch screen media experience
for families with young children.